6 Supply Chain Management

The Issue	The Solution	The Benefit
The Commonwealth operates multiple redundant supply chain processes and systems. While the introduction of eVA has led to many improvements in the procurement processes of the Commonwealth, there are other existing applications and supporting technologies which are expensive to maintain and retain limited utility. The Commonwealth's approach to supply chain management is more expensive than that of the private sector.	The implementation of a standard platform for integrated materials management, replacing the confederation of current systems, interfaces, and locally developed tools. Implementation of a service bureau to centralize procurement of high volume commodities and services, and to expand Virginia Partners in Procurement (VAPP) into more commodities and services. The enhancement of eVA to provide additional functionality and integration.	Reduced costs of supply chain management for the Commonwealth.

Supply Chain Management is a function that impacts all agencies. Supply Chain is composed of two major processes: the acquisition of goods and services (procurement) and their distribution to end users (inventory management). Agencies vary widely in the sophistication of their supply chain management processes.

The Commonwealth of Virginia, through its public/private partnership with Team CGI-AMS, has made the process significantly more efficient through the implementation of eVA, the Commonwealth's solution for e-procurement. However, there are additional opportunities to deliver more value to the Commonwealth's citizens.

As we observed in Due Diligence, the decentralized culture within the Commonwealth has resulted in multiple procurement procedures and systems, ranging from very large, complex enterprise resource planning (ERP) systems to manual, paper-based processes. [1] Some procurement reforms have yielded real results. For example, eVA has delivered real economic benefits to the citizens of Virginia. The Commonwealth has also achieved substantial results from its strategic sourcing efforts.

However, the Commonwealth's procurement process is less cost efficient than those of the private sector. Also, we believe that there are additional strategic sourcing opportunities outside of the spend categories already addressed by the state. Going forward, the Commonwealth is confronted with the loss of institutional supply chain knowledge as more employees become eligible for retirement.

We propose three initiatives to improve the productivity of the Commonwealth's supply chain processes.

Given these conditions, we propose that the Commonwealth build upon the success of current procurement reforms in three ways:

- Provide its agencies with a shared platform of processes and application software for both procurement and inventory management.
- Implement a service bureau to centralize procurement of the most commonly used products and services. Use this service bureau to expand upon the successes achieved to date in the Virginia Partners in Procurement (VAPP) Initiative and the Virginia Distribution Center.
- Use this Initiative and its proposed funding model to facilitate enhancements to the functionality of eVA.

There are numerous productivity benefits to be achieved through these initiatives. The productivity of supply chain personnel will be improved through moving high volume purchases for commonly consumed goods and services into a service bureau. This will allow procurement personnel to spend time developing expertise in agency-specific requirements to support their missions. When the complexity and duplication of procurement processes, policies, and procedures across agencies are reduced, productivity in this field will generally increase.

We also believe that cost savings will be achieved with these initiatives. They provide a means for further exploiting the savings achieved to date via VAPP, especially through expanding VAPP to encompass opportunities not yet considered during the first three waves. As supply chain personnel retire or leave state employment, the Commonwealth can capture cost savings without losing institutional knowledge and productivity. And as the complexity of supporting

---

[1] During April-June 2005, a staff team from the Commonwealth of Virginia, IBM, and CGI-AMS designed, developed and executed Due Diligence research to gather information on 19 business functions in four business areas of the Commonwealth's Enterprise Business Architecture: administrative management, financial management, human resources management, and supply chain management, with the supporting function of application management. The team conducted a set of foundation interviews with key subject matter experts, administered electronic surveys to a sample of 46 agencies, and conducted a series of follow-up discussions with respondents. The team also used data generated by Commonwealth systems and research entities to validate survey information provided.

numerous requisitioning, procurement, and inventory management systems throughout the Commonwealth is reduced, the cost will be reduced as well.

6.1 As-Is Cost of Doing Business

Please see Appendix A for our calculation of the As-Is cost of doing business for Supply Chain Management. Other financial impacts of the As-Is state are discussed below.

6.1.1 eVA's Economic Impact

eVA has made a real economic contribution to the Commonwealth of Virginia.

The cornerstone of the Commonwealth's approach to supply chain management is eVA, Virginia's statewide e-procurement system. The eVA solution is used by 171 state agencies and institutions, 476 local governments, and more than 27,000 registered vendors. eVA offers 5 million line items in almost 1,000 electronic catalogs. As of the submission of this proposal, eVA has processed more than 640,000 orders representing $6.6 billion in goods and services.

eVA, a public/private partnership initiative between the Commonwealth and Team CGI-AMS, has made a major impact on the Commonwealth.[2] These benefits are summarized in Exhibit 6-1 below:

Exhibit 6-1   eVA Benefits

Cost Savings	Based on a Market Basket survey, the Commonwealth has achieved savings of $69M in Fiscal Year 2004 and $114M since the inception of eVA.
Savings and Cost Avoidance	$36.5M in annual savings and cost avoidance achieved from the use of aggregated procurement information captured in eVA to award cooperative, statewide contracts.
Greater Efficiency	Increased efficiencies including approximately a 50% reduction in the cost to process a purchase order, up to a 70% reduction in processing time from Solicitation to Award, and up to a 25% reduction in the delivery time for selected vendors.
Increased Competition	Increased competition with a 200% increase in vendor registrations and 18.4% of Quick Quote orders awarded to Small, Women and Minority (SWAM) vendors.

Source: http://www.vaexcels.governor.virginia.gov/accomplishments/accomplishments-GP.cfm

6.1.2 Virginia Partners in Procurement

Virginia has enjoyed considerable success in reducing its costs through strategic sourcing. The two waves of strategic sourcing effort already completed as part of VAPP have yielded approximately $36 million in savings by combining agency purchasing power and negotiating more favorable contracts with suppliers. These phases have largely concentrated on finding cost efficiencies in commonly procured products, representing approximately $300 million in annual spending in the following areas:[3]

---

[2] www.vaexcels.governor.virginia.gov/accomplishments-gp.cfm

[3] Virginia Partners in Procurement Update, Report to the Integrated Government Advisory Committee of the Joint Commission on Science and Technology, August 17, 2004

- Office supplies and paper
- Janitorial, maintenance, and operations supplies
- Maintenance and operations
- Enterprise storage devices and media
- School buses, heavy trucks, off-road equipment
- Lab supplies
- Uniforms
- Computer hardware, software, printers, PC accessories
- Hotels
- Temporary services.

The continued success of VAPP is dependent, in part, on the continued availability of purchasing data from eVA for data mining and analysis.

6.1.3 Supply Chain Process Metrics

The Commonwealth's supply chain processes are not as efficient as their commercial counterparts.

eProcurement and Strategic Sourcing focus on capturing cost savings in the relationship between the Commonwealth and its suppliers. However, there are additional, significant costs embedded within the Commonwealth's internal supply chain processes and systems. We have compared the Commonwealth's performance in select key areas to a set of industry benchmarks to better understand the performance of these supply chain processes.
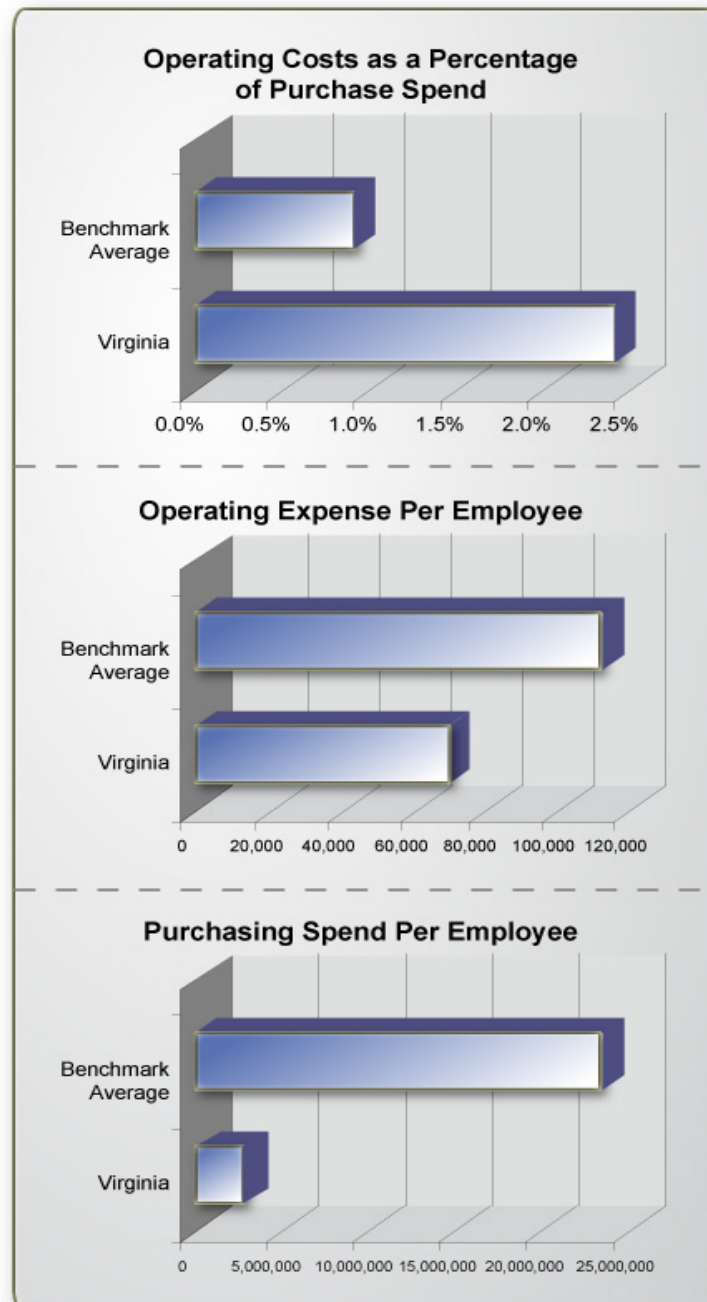
The Commonwealth has procured approximately $3.8 billion in goods and services over the past 12 months. We estimate that the Commonwealth incurred administrative and IT costs of approximately $88.5 million to complete these transactions. We offer the following cross-industry benchmark comparisons:[4]

- **The Commonwealth's procurement operating costs are greater than the private sector.** These costs amount to approximately 2.35 percent of the total cost of goods and services procured. The industry average is 1.02 percent.

- **The Commonwealth pays more to process procurement transactions compared to the private sector.** The Commonwealth incurs costs of approximately $188 per procurement. The average commercial cost ranges from $80 to $140, depending upon the specific industry.

- **Commonwealth procurement personnel on average manage lower volumes of spending compared to the private sector.** Commonwealth procurement specialists individually manage approximately $2.7 million in spending annually. The industry average is substantially higher, $22.5 million. Some of the difference can be attributed to benchmark data that is biased towards manufacturing. However, the state's performance is substantially lower compared to industry benchmarks.

---

[4] Center for Strategic Supply Research, *Report of Cross-Industry Standard Benchmarks*, April 29, 2005. Center for Strategic Supply Research, *Cross-Industry Benchmarking Report Narrative Summary for the Period November 2003–August 2004*, 2004.

Exhibit 6-2 compares the performance of the Commonwealth's supply chain process to commercial benchmark averages.

Exhibit 6-2   Comparison of the Commonwealth to Commercial Supply Chain Benchmarks

VA BMI 7-05 066 v01

6.1.4 Commonwealth Process Environment and Architecture

- **General process flows and/or decompositions, including starting and ending points.** Please see Appendix B for business decomposition graphics for the business functions in Supply Chain Management.

The Commonwealth has a well-established procurement policy. However, agencies implement their own processes and systems.

- **Process orientation (centralized, distributed, combination, etc.).** The goods and services acquisition process is highly decentralized but very prescriptive due to the governance model. Agencies typically have a $50,000 delegated purchase authority (DPA) for goods and an unlimited delegation for non-IT services. Acquisitions within an agency's DPA can be completed by the agency by following the Virginia Public Procurement Act (VPPA) and related Virginia Information Technologies Agency (VITA) or Department of General Services (DGS) policies. Acquisitions that exceed an agency's DPA will be initiated by the agency but will be completed by either VITA or DGS depending upon the goods and/or services that are requested. A small purchase charge card is also utilized by most agencies to facilitate acquisitions up to $5,000. Additionally, a "Gold Card" purchase card program allows agencies to pay for acquisitions up to $50,000.

  The Inventory Control Process is highly decentralized in the Commonwealth. In addition, there are no statewide standards or policies for inventory management. Inventory policies and procedures vary widely among agencies. In some cases an agency has defined an agency-wide set of policies and procedures, while in other cases the policies and procedures vary within divisions and departments. We also found instances of agencies attempting to use their inventory control processes to also manage equipment, fixed assets, and/or track the custody of personally assigned equipment.

- **System instances and interfaces.** eVA provides an enterprise-wide approach to the decentralized procurement environment. It enables the Commonwealth to obtain enterprise-wide visibility over approximately $5 billion in purchases since going live. This visibility permits the state to leverage its buying power. The eVA solution, a public/private partnership between the Commonwealth and Team CGI-AMS, has been widely recognized for its accomplishments, as evidenced by the following awards:

  - eGov Magazine's Government Services Administration *2003 Trailblazer Award*
  - *State Government Innovator Award* by Massachusetts Institute of Technology and Accenture to honor best practices in existing services delivered via the Internet
  - Named one of the nation's "*Best in Breed*" technology projects for 2002 by Center for Digital Government
  - *Gold Award* for Innovation In Technology at the 2002 annual Commonwealth of Virginia Information Technology Symposium (COVITS)
  - *2003 Cost Effectiveness Award* from the National Electronic Commerce Coordinating Council
  - National Association of State Procurement Officials' (NASPO) *2003 Cronin Gold Award for Innovations in IT*

The Commonwealth operates and supports numerous independent applications for supply chain functions across its agencies.

Commonwealth agencies operate a large number of separate, independent systems that perform procurement functions in addition to eVA. All agencies are required to process the majority of their acquisition activity through eVA, so agencies that have chosen to use an existing agency system interface their acquisition orders into eVA on a daily basis. This facilitates a common channel for vendors to receive orders and aggregates the total Commonwealth spend in a single system—which positions the Commonwealth to better leverage its total buying power.

The Commonwealth does not have a central inventory management system. Rather, agencies have invested in a variety of applications to track and manage inventory. In some cases agencies utilize the inventory management component of an integrated ERP suite, while in other cases agencies maintain separate inventory management system. These systems range from Commercial Off-The-Shelf (COTS) applications and agency-wide custom applications to locally maintained spreadsheets or databases. These separate systems may or may not be integrated with other agency administrative management systems such as financial management, acquisitions, and asset management. In addition, there is no visibility into inventory across agencies.

- **Variances, blockages, fragmentations.** As described in the Strengths and Weaknesses section above, the Commonwealth does not have standard policies, procedures, or a central system for inventory control. As such, there is a significant variance from one agency to the next and, at times, within an agency.

  Commonwealth employees perceive significant blockages in performing the goods and services acquisition function. These blockages can be attributed to multiple procurement policies (i.e., DGS and VITA), competing initiatives (e.g., SWAM, eVA, VITA), and limited resources to meet the needs of new and changing initiatives.

- **Points of process intersection, integration, and conflict.** The invoice and associated match for payment intersects with the order and receipt processes. In some cases, agencies integrate data from eVA with the financial management system to perform an automated match process. In other cases, agencies either use dual entry to get the necessary information into eVA and into their financial management system or use a manual matching process to generate a payment request.

- **Controls and points of redundancies.** eVA provides receiving functionality but not all agencies use eVA as their primary tool for receiving. However, all agencies are required to use eVA for receiving for "in scope" IT purchases. As a result, some agencies are required to process receipts in both eVA and their own internal system that they typically use for receiving.

- **Duplication of effort and data.** In most cases, agencies have developed automated interfaces within their agency-specific systems and also with eVA. However, Due Diligence identified a number of situations where agencies perform dual entry to post transactions to multiple systems (e.g., eVA and other agency-specific systems such as a financial management system).

- **In-sourcing, out-sourcing, co-sourcing arrangements.** The Commonwealth currently utilizes out-sourcing for the eVA solution via a public/private partnership with Team CGI-AMS. There are also several examples where the Commonwealth uses outsourcing to manage selected inventories such as automobile parts. In these instances, the inventory is generally a vendor-managed inventory.

  The Commonwealth also utilizes in-sourcing on a limited basis for goods and services acquisition. Most of this activity is performed by the Department of General Services for other small agencies.

Retirements and attrition will impact the productivity of supply chain processes over the next 5 – 10 years.

- **Legal considerations.** The process for all acquisitions is governed by the Virginia Public Procurement Act (VPPA). The Virginia Information Technologies Agency (VITA) sets procurement policy for all in-scope Information Technology (IT) acquisitions. DGS sets policy for all remaining goods and services. Federal and other mandates are also imposed on the supply chain process for grant funded procurements. Unlike procurement, there is virtually no central guidance for inventory management.

- **Commonwealth workforce.** We have estimated that the Commonwealth has approximately 1,350 employees who perform specialized purchasing functions, based upon procurement workforce metrics provided by the Center for Strategic Supply Research and data publicly available from the Department of Human Resources Management.[5] Although not documented as part of the Due Diligence effort, the Commonwealth employees we encountered during the process have significant, agency-specific expertise in processes and systems. Using DHRM estimates, 35-65 percent of this population of employees will likely be eligible for retirement within the next 10 years.[6] Therefore, the Commonwealth is facing the prospect of losing significant institutional knowledge in the not too distant future. Similarly, the Commonwealth experiences approximately 10 percent employee turnover annually. The Commonwealth has an ongoing requirement to train a large number of new procurement professionals annually. This effort is diffused throughout the various agencies and is more complex in light of the differences in process, procedure, and systems.

---

[5] ibid

[6] 2004-2005 State Workface Planning Report-Commonwealth of Virginia, Department of Human Resource Management, September 30, 2004.

6.2 Strengths and Weaknesses

We identified the following characteristics of the Commonwealth's supply chain management process.

6.2.1 Strengths of the Existing Processes

The Due Diligence effort documented numerous criticisms of the current operating environment. The highlights of these comments are summarized in Paragraph 6.2.2 below. However, the following strengths are noteworthy:

eVA is a good example of how public/private partnerships deliver real economic value to the Commonwealth.

- **Enterprise-wide procurement system (eVA).** eVA is used as the primary procurement tool by a number of agencies in the Commonwealth. This includes agencies that have other agency specific systems (e.g., ERP systems) as well as agencies that do not have another system. eVA is used by 171 Commonwealth agencies and institutions of higher education and over 475 local government entities.

- **Strategic sourcing.** The Commonwealth has further reduced the costs of certain goods and services through strategic sourcing initiatives. Strategic sourcing was first introduced in DPS through the Virginia Partners in Procurement (VAPP) initiative. In addition, VITA has included strategic sourcing in their overall procurement strategy. The Commonwealth estimates that they will achieve over $30 million in savings from VAPP strategically sourced contracts in FY05.

- **Mission-specific inventory management systems.** Agencies have evolved a variety of manual and automated processes for tracking their inventories. Most agencies have developed their own inventory management systems to support their specific missions. Solutions range from agency-wide systems to locally maintained spreadsheets and databases.

- **Financial controls**. Agencies surveyed have implemented a wide array of controls to help assure the financial integrity of their inventories. Agencies participating in this survey have implemented several types of security and accounting controls to monitor the disposition of inventory. These controls range from annual or semi-annual physical inventories to continuous sampling. These agencies also report the use of various means of controlling physical access to inventory storage areas.

6.2.2 Weaknesses of the Existing Processes

State employees have accomplished remarkable results despite the current disjointed collection of processes and systems.

During Due Diligence, we identified a set of weaknesses in the current supply chain management processes. These weaknesses are listed in Exhibit 6-3 and Exhibit 6-4 below.

The Comments column in the exhibits represents specific comments on these topics from Commonwealth staff responding to the Supply Chain Management survey.

***Exhibit 6-3   Identified Goods and Services Acquisition Weaknesses,
Due Diligence Survey***

Weaknesses	Comments and Recommendations
Multiple procurement systems. Many agencies use redundant agency-specific systems (e.g., ERP systems) to perform their procurement function. Agency procurement orders are then interfaced to eVA for electronic order delivery and to facilitate enterprise-wide reporting. Commonwealth agencies operate numerous ERP and/or procurement systems in addition to eVA.	▪ "Using multiple systems for procurement related functions" ▪ "Continual requests for data and information from external sources. Very time consuming retrieving and preparing data from multiple systems" ▪ "Use one system for all purchasing related functions" ▪ "VCE has a procurement system called Syteline."
Lack of integration. Although eVA provides the capability, agencies vary in the degree of integration with the system. Additionally, eVA does not currently interface with CARS or other agency specific systems such as inventory, equipment, and fleet management systems.	▪ "eVA's inability to interface w/other business functions" ▪ "eVA and financial systems are not integrated but need to be." ▪ "Lack of payment processes in eVA or interface between eVA and CARS."
SWAM requirements and reporting. Agencies find it difficult and time consuming, particularly for purchases less than $5,000, to identify certified SWAM vendors and to obtain the required number of quotes from SWAM vendors. In addition, SWAM compliance reporting is an intensive manual process. Agencies consistently commented on the lack of certified SWAM vendors or current statewide contracts with certified SWAM vendors. SWAM reporting is left to each agency and often involves significant manual work rather than being an automated central process.	▪ "Finding sources for SWAM vendors that are certified" ▪ "Compliance with requirements to use SWAM vendors when only 5,000 vendors have been certified by DMBE." ▪ "SWAM Vendor Registration - It is difficult to get SWAM vendors to register on eVA or to register as a SWAM vendor."
Multiple vendor registration processes. A vendor is faced with multiple systems and processes when registering to do business with the Commonwealth. At a minimum, a vendor is directed to register in eVA. SWAM vendors must also certify with the Department of Minority Business Enterprises. Certain agencies also maintain their own registration process. Multiple processes make it time consuming, costly, and at times difficult, to get vendors to register to do business with the Commonwealth.	▪ "eVA Vendor Registration - It is difficult to get vendors to register and agree to pay the 1% fee." ▪ "Discrepancies between DMBE & eVA registrations" ▪ "Develop one central place for vendor registration with no fee to encourage ▪ participation (only 2% of VA businesses currently registered with eVA)"
Qualified procurement personnel. Agencies report that it is difficult to identify, attract, and retain qualified procurement personnel. Agencies also identified a need for improved training of existing personnel for both the procurement technologies and processes, particularly when new	▪ "Staffing to handle state mandates such as SWAM, eVA, VITA, and PPEA" ▪ "Retaining procurement staff." ▪ "Ever increasing work demands with insufficient staff to accomplish the work results in some important work functions not being performed. Inefficiencies of the

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-10

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Weaknesses	Comments and Recommendations
initiatives are introduced. Agencies also have vacant positions that they have had difficulty filling. DGS operates a statewide education initiative that is targeted to the procurement community. However, agencies consistently identified the need for additional training on both procurement technologies and processes.	eVA system, requirements for SWAM on low dollar purchases, and inability to use small purchase card for phone and Internet procurements add to this problem."

Exhibit 6-4   Identified Inventory Weaknesses, Due Diligence Survey

Weaknesses	Comments and Recommendations
No Commonwealth-wide policy for inventory management. There is no minimum standard or guidance for performing inventory management throughout the Commonwealth. The Commonwealth has promulgated a policy on CAFR requirements for reporting the value of year-end inventory balances. However, there are no other statewide policies. Most agencies have developed their own management processes, financial controls, and reporting requirements for inventory. There is no commonly accepted methodology or approach for controlling inventory.	*No relevant staff comment*
Demand forecasting. Few agencies with notable inventories have implemented guidelines for forecasting the demand for inventory items. Most agencies participating in the survey report using historical patterns of usage as the basis for ordering materials and maintaining stocks in inventory. A couple of agencies incorporate forecasts of business volume or significant events into their planning process.	▪ "Quantities for Inventory have been established over time as to what is required on a weekly basis and then sufficient quantities are maintained to meet the known demand." ▪ "Demand history is based on the number of times an item is issued within a 6-month period. Reorder point is established based on frequency of demand, order ship time, storage space, and funding." ▪ "We do not forecast inventory demand but reorder when supplies get low or when we receive a specific request for a particular item."
Stocking levels. Most agencies participating in the survey tend to stockpile excessive quantities of inventory. Inventory is infrequently replenished. Most agencies place a premium on maintaining sufficient stocks of materials to meet their missions rather than optimizing inventory costs. The most common metric of assessing the inventory management process is the percentage of stock outages. Reorder points and quantities are often based upon local experience or anecdotal forecasts of demand. Less regard is given to actual inventory consumption and turnover rates.	▪ "3 month supply" ▪ "Under normal market conditions, demand does not vary. Order point is at 1-month supply on and at vendor request."

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-11

Weaknesses	Comments and Recommendations
Intermingling of inventory, equipment, and custodianship management processes. We found some instances where agencies are using the same inventory management processes to control materials, equipment, fixed assets, and personal-assigned equipment. Some agencies over time have used their existing inventory control processes and applications to manage equipment. Some are also using these resources to also manage fixed assets and custodianship of personally-assigned equipment. These processes and systems were not designed with these capabilities in mind. As a result, management requirements are at best, partially supported.	*No relevant staff comment*
Overlapping transportation capabilities. Agencies that maintain significant inventories have assembled their own truck fleets and distribution networks. In one case, transportation services are outsourced. In all other cases, agencies are maintaining their own transportation capabilities. These range from small fleets of tractors and trailers to smaller box trucks and vans.	*No relevant staff comment*

6.3 Reengineering and Re-Solutioning Opportunities

The Commonwealth has concentrated its supply chain modernization efforts in the areas of Strategic Sourcing and eProcurement. As part of this process, the Commonwealth has also proven the value of public/private partnerships in achieving more economic delivery of services and benefits to its citizens. Team CGI-AMS is proud of its contributions towards modernizing the Commonwealth's procurement process through our partnership with the State of Virginia. We believe that the Commonwealth can capture a new wave of benefits by modernizing its policies, processes, and systems for supply chain management. We look forward to expanding our successful relationship in supply chain management and make recommendations in two areas: opportunities to modernize processes and our system solution recommendations.

6.3.1 Process Recommendation

Team CGI-AMS recommends two major process initiatives to improve the efficiency of the Commonwealth's supply chain operations, implementation of a Procurement Service Bureau, and expansion of the strategic sourcing effort under VAPP to encompass additional commodities and services. These capabilities are dependent upon our recommended system solution, described in Paragraph 6.3.2 below.

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-12

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

6.3.1.1 Procurement Service Bureau

We recommend that the Commonwealth investigate consolidating its high volume, commonly purchased goods and services into a service bureau. We believe that this initiative offers the benefits of reduced costs and increased productivity. A service bureau is largely dependent on a set of technologies to perform the targeted job functions. As such, we recommend that the feasibility of a service bureau be evaluated in conjunction with the implementation of the proposed integrated materials management solution.

6.3.1.2 Strategic Sourcing

Team CGI-AMS commends the Commonwealth for its efforts to date with strategic sourcing. The Commonwealth recognized the significant benefits that can be realized through strategic sourcing. A common approach to strategic sourcing is to target the "quick win" spend categories that have a high savings potential and have a relatively low complexity and/or cost to implement. The quick win categories are often commodity items with a limited number of services. The spend categories selected by the Commonwealth for the first three phases of the VAPP initiative are generally consistent with the typical quick win approach.

Through its public and private sector implementation experience, Team CGI-AMS recognizes that the savings opportunities for strategic sourcing extend well beyond the typical quick win categories. Team CGI-AMS also recognizes that there may be a more significant investment to implement some of the spend categories on the extended list of target categories.

We believe there is a tremendous opportunity to extend the work that the Commonwealth has already done and to achieve even greater savings. However, the VAPP initiative information available during Due Diligence was not at a sufficient level of detail to complete a business case for additional strategic sourcing efforts. Team CGI-AMS recommends that it lead an effort to review the VAPP information in greater detail and develop a business case in accordance with the governance processes described in Chapter 9. The primary review will focus on the $2 billion in annual spend that has been considered unsourceable and the spend categories that have been considered but not yet implemented in the first three VAPP waves.
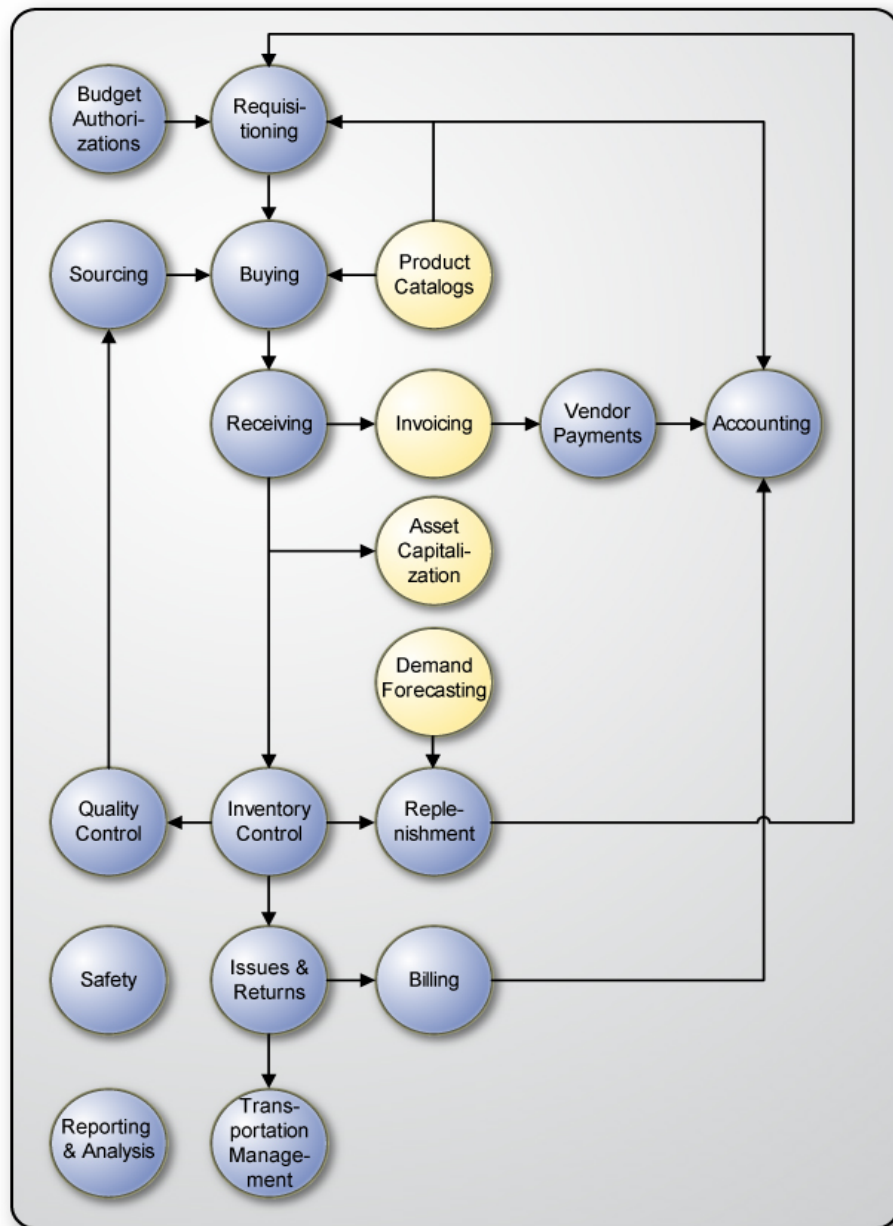
6.3.2 Systems Approach

Team CGI-AMS recommends two changes to the systems approach for supply chain management. The first is the implementation of a new integrated materials management solution and the second is the implementation of one or more additional enhancements to eVA.

6.3.2.1 Integrated Materials Management Architecture

The Commonwealth today has a collection of disparate, loosely connected supply chain management processes that vary by agency. Exhibit 6-5 below outlines our concept for an integrated process.
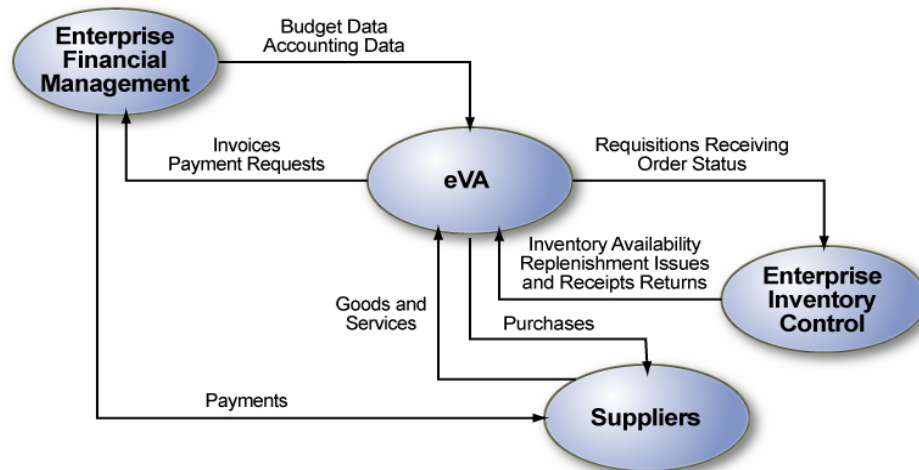
Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-13

Exhibit 6-5   Holistic View of Supply Chain Management

VA BMI 7-05 069 v01

We propose to use this conceptual model as the basis for implementing an Enterprise Inventory Control solution for the Commonwealth. Our proposed Inventory Control system will be integrated with eVA and our proposed new Enterprise Financial system. Exhibit 6-6 demonstrates our vision for the new integrated materials management solution while Exhibit 6-7 summarizes the key business functions of the solution. Exhibit 6-7 also highlights the proposed dependencies between Inventory Control, eVA and our proposed Financial Management Solution.

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-14

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Exhibit 6-6   Integrated Materials Management Application Architecture

va bmi 7-05 107 v01

Exhibit 6-7   Integrated Materials Management Functions

VA BMI 7-05 070 v01

6.3.2.2 eVA Enhancements

Team CGI-AMS assumes that the Commonwealth will continue to use eVA as their enterprise-wide procurement solution. We recommend that the eVA

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-15

solution be enhanced to include invoicing and matching functionality in order to issue a payment request to external systems such as CARS or agency financial management systems. This will expand the current eVA offering to include complete requisition to check processing.

We recognize that the Commonwealth has a desire to implement additional enhancements to eVA to continue to improve the overall value of the solution. One avenue available to the Commonwealth to fund some or all of these enhancements is to utilize a portion of the revenue generated by the VEAA Initiative

6.3.3 Organizational Approach or Service Delivery Model

Team CGI-AMS recognizes the Commonwealth's need for a highly decentralized environment for supply chain management. As such, our recommendation is to continue with this approach with the exception of our proposed new Procurement Service Bureau.

6.3.4 Benefits to the Commonwealth of Virginia

The Commonwealth is staged to capitalize on improvements to its core processes and systems. The next wave of strategic savings is to be found in rethinking the Commonwealth's approach to supply chain management.

We believe that the Commonwealth can cut its supply chain operating costs by 15-30 percent and deliver a higher level of service through reengineering its supply chain management approach.

Cost reduction. We believe that the Commonwealth can achieve a 15-30 percent reduction in the cost of its supply chain operations by implementing our recommendations. Numerous U.S. state and foreign governments have undertaken eprocurement and strategic sourcing initiatives. There is sufficient experience with these initiatives to concretely measure their success. However, relatively few government organizations have initiated projects to address fundamental restructuring of supply chain processes and systems of the scale envisioned for the Commonwealth; relevant examples are shown below.[7]

- **United Kingdom National Health Service.** The United Kingdom National Health Service expects to achieve £240 million in savings through changes in policy, strategic sourcing, electronic procurement, moving to a pooled (e.g., service bureau) approach to purchasing commonly procured commodities, reengineering processes, and implementing a common application platform.

- **Government of Ontario, Canada.** The Ontario Government has achieved approximately C$300 million in savings through consolidating supply chain systems and restructuring processes. The government's goal is to increase these savings to C$750 million by Fiscal Year 2007-2008.

---

[7] United Kingdom National Health Service - http://www.pasa.nhs.uk/modernisingsupply/Modernising_supply_April_2002.doc

Government of Ontario, Canada - http://www.gov.on.ca/FIN/english/media/2004/nre12-scfea.htm

Government of Western Australia, Department of Treasury and Finance - http://www.dtf.wa.gov.au/cms/uploadedFiles/PMO%20_Progress_Rpt.pdf

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-16

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

- **Government of Western Australia, Department of Treasury and Finance**. The Government of Western Australia is working to achieve AU$120 million in savings by expanding its use of master agreements, process reengineering, introduction of new applications, and consolidating some of its procurement professionals into a service bureau.

The Commonwealth is spending approximately $10 million per year to support supply chain applications. Our proposed Integrated Materials Management solution will reduce these expenses 30-40 percent.

Enterprise system consolidation. We estimate that the Commonwealth currently spends approximately $10 million per year to operate and support the various applications that support portions of agency supply chain operations. This estimate does not include software licensing and maintenance fees. It also does not include the "soft dollar" costs embedded in virtually every agency that are associated with developing and maintaining local or departmental databases, spreadsheets, etc., used to solve internal challenges. Implementation of our recommended integrated materials management solution will enable the Commonwealth to reduce the complexity and costs associated with supply chain management solutions by 30-40 percent annually.

6.3.5 Transition or Implementation Plan

Team CGI-AMS has more than 30 years of experience implementing administrative systems in the public sector. Our experiences include both the implementation of a single integrated application suite as well as the integration of several disparate applications. Our most recent experience in the Commonwealth is the integration of eVA with agency-specific systems (e.g., financial management).

Exhibit 6-8 below summarizes our proposed timeline for executing our recommended solutions for supply chain management. All of the solutions are long-term solutions, as defined in the Commonwealth's Proposal Preparation Statement of Work. However, the initial analysis and planning for each solution will occur during Phase 1. Please refer to Chapter 9 for a more complete discussion of our proposed implementation road map.

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-17

Exhibit 6-8   Supply Chain Timeline

Initiative	Phase 1	Phase 2
Procurement Service Bureau	Business case development Functional requirements	Implementation and operational support
Strategic Sourcing	Business case development Opportunity prioritization	Sourcing execution
Integrated Materials Management Architecture and Enterprise Inventory Control	Business case development Functional requirements Software package selection Implementation planning	Detailed design Implementation Integration and interfaces Data conversion Training Infrastructure support Deployment Operations Maintenance End-user support
eVA Enhancements	Functional requirements Enhancement prioritization Project planning and cost estimation	Development Testing Training Deployment Operations Maintenance End-user support

6.3.5.1 Implementation of a Procurement Service Bureau

We believe that there are significant benefits to be achieved by consolidating the high-volume, routine procurement activities into a service bureau. However, there is insufficient data available from Due Diligence to determine if there is a business case for the concept. We propose that the concept be studied and a business case developed in accordance with the governance processes described in Chapter 9.

6.3.5.2 Strategic Sourcing

We recommend that the review of the VAPP information and associated business case definition be performed during Phase 1. The business case will then be evaluated following the standard governance processes described in Chapter 9.

6.3.5.3 Integrated Materials Management Architecture and Enterprise Inventory Control

We intend to implement our proposed Integrated Materials Management solution using commercially available packaged software as the foundation. We will work with the Commonwealth to develop requirements, evaluate alternatives, and select the appropriate application software package using the decision making, project management, and governance processes described in Chapter 9.

We recommend implementing the Integrated Materials Management solution in three stages:

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-18

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

- **Stage I – Pilot implementation**. Implement Integrated Materials Management for Virginia Distribution Center (VDC) and Surplus Property Management. VDC requires the full range of envisioned functionality for Integrated Materials Management. VDC's operations are sufficiently small that a new solution could be implemented relatively quickly. Further, VDC is operating an obsolete, unsupported application, database, and system software. Surplus has similar business requirements and their needs can be addressed in parallel.
- **Stage II – Provide general solution.** Make the pilot implementation available to agencies that do not have an in-house ERP system. The pilot implementation would also support the Procurement Service Bureau proposed above.
- **Stage III – Extend pilot implementation to large, complex agencies.** Enhance the pilot implementation to meet the more specialized needs of larger organizations such as Department of Corrections and Department of Mental Health Services.

Based on our prior implementation experiences, Team CGI-AMS recommends that the new Inventory Control system be implemented in conjunction with the proposed new Financial Management system. As such, the pilot implementation for VDC and Surplus will be the complete new integrated materials management solution composed of the two new systems and eVA.

6.3.5.4 eVA Enhancements

Team CGI-AMS recommends that the invoicing and payment match enhancements be implemented in eVA during Phase 2 of the VEAA Initiative.

6.3.5.5 Disposition of Approved or Active Projects

The Due Diligence data identified a few active projects directly related to supply chain management. The survey also identified a few more active projects for upgrades to agency financial management systems. These projects may or may not have an impact on supply chain management. With the exception of eVA, all but two of the projects are scheduled to be completed by the end of 2005. The two remaining projects are Financial Management system upgrades at the Department of Health and the Department of Rehabilitative Services and are scheduled to be completed prior to the proposed implementation of the new Integrated Materials Management solution. Team CGI-AMS recommends that the VEAA team evaluate any then approved or active projects during the implementation planning for the proposed Integrated Materials Management solution.[8]

---

[8] We reviewed the list of the ITIB approved projects and believe that this approach will accommodate agency-level projects.

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-19

Supply Chain Management
©Copyright 2005, Team CGI-AMS
6-20

Virginia Enterprise Applications Architecture Initiative
Commonwealth of Virginia
August 5, 2005